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MEDICAL INSPECTION OF SCHOOLS IN BOSTON

By CHARLES G. DEWEY, M.D.

THE primary schools have always been among the most important factors in the spread of contagious diseases. Here the children, at the most susceptible age, are brought into the closest relations. The school-rooms are usually overcrowded and often poorly ventilated; the children's outer garments are hung so closely together that they touch those of other children; they often use the same cups in drinking and sometimes the same towels, and during the intermissions their games bring them into personal contact with other children from all parts of the school district.

All this has long been recognized, and various efforts have been made to remedy the evil. But these efforts resulted in comparatively little good, as they were usually not very systematic or did not reach the root of the matter. It remained for the Board of Health of the City of Boston to inaugurate a system which is doing much to solve the problem.

In 1894, after several serious epidemics of contagious diseases, the Board of Health, with the support and coöperation of the School Board, began what is termed the "medical inspection of schools." The plan was so carefully thought out, that after over six years' trial it has had to be changed in but few particulars.

The details of the system are as follows: The city is divided into about fifty districts, varying in area according to the density of population and number of schools. There are on an average four schools and about sixteen hundred school-children in each district. To each district is assigned a physician, usually a recent graduate with hospital training and experience in contagious diseases. Each school-day, as soon after the opening hour as possible, he goes to each of his schools and sees the children who in the judgment of the teachers are not in

their usual health. The children bring printed slips filled out by their teachers with their names and of what they complain. The physician, or medical inspector, as he is called, after making his examinations, in which he is constantly on the watch for contagious disease, fills out the spaces left on the slips with his diagnosis and advice and signs them. The children then take them back to their teachers. Except in emergencies he never treats the children, but refers all needing treatment to their family physicians. He advises concerning the need of medical treatment and whether the children should be allowed to remain in school or sent home.

With contagious diseases the case is different. Here, as agent of the Board of Health, the inspector speaks with authority and himself sends the children home, advising them to call in their family physicians at once. Their books and papers are either disinfected or burned, and their desks and seats scrubbed with some disinfectant. Suspicious cases are sent home, cultures first being taken, when diphtheria is suspected, to remain under observation until a satisfactory diagnosis can be made. This is done on the ground that one child should be deprived of a few days of school rather than that many be exposed to a possible infection.

But while the primary object of school inspection is the prevention of the spread of contagious diseases, a large part of the inspector's work is in the diagnosis of other diseases. By frequent consultations the teachers, who, as a rule, are much interested in the physical condition of their children, and are by their previous training good observers, become familiar with the signs of disease, so that it is seldom that children who are really sick are not brought to the inspector's attention. It is surprising how many cases of hypertrophied tonsils, adenoids, eye-strain, and other chronic troubles they succeed in finding. The parents' attention is called to these defects, with the result that in many cases the children receive proper treatment, whereas formerly they were often allowed to go on for years, if not for life, handicapped by troubles that could easily have been remedied or relieved.

The inspector also sees all children coming to school for the first time or from other schools without proper vaccination certificates. If he finds them duly vaccinated, he certifies to that fact; if not, he refers them to their physicians for vaccination, or, if on careful investigation they are found unable to employ a physician, he vaccinates them himself.

He also consults with the teachers about the hygiene of the school-rooms and various other matters of importance in maintaining the health of the children.

While, as a rule, the parents are pleased with school inspection, as it gives them a feeling of added security in sending their children to school, there are some who do not appreciate the disinterested advice given. This is particularly true when their attention is called to some chronic trouble, long familiarity with which makes them believe the condition to be normal. In such cases they sometimes resent what they are pleased to call the interference of the doctor. Not long ago a boy in one of the schools was seen to be anæmic. When it was learned that he was not under treatment, word was sent to his mother that he ought to be seen by his family physician. The following day came the reply that he was no worse than he had been for a long time, and that when she wanted advice she would ask for it.

But perhaps the most trouble comes from the finding of pediculi. When they are discovered the children are sent home with printed prescriptions for crude petroleum and directions for its use, signed by the master. For some unaccountable reason many mothers, instead of being grateful, consider the finding of these pests in their children's hair a direct reflection on themselves, and occasionally an irate woman appears at the school and expresses her opinion of teacher and doctor forcibly if not elegantly. Even the inspector has been known to receive a call later, during which he has been given much gratuitous advice. Two years ago general inspection of the children's heads was made with excellent results, so far as finding pediculi was concerned. Yet it is doubtful if many of the teachers or physicians would care to repeat the experience.

Some physicians carry the inspection in the primary schools a step further, and see not only those who are not well, but also those returning to school from sickness, when they bring notes from their own physicians stating the nature of their illness. Of course, this greatly increases the inspector's work, but it has in several instances resulted in the detection of cases of scarlet fever and diphtheria, to say nothing of the milder exanthemata. These cases of scarlet fever were so mild that no physician had been called, the parents supposing that the children had only ordinary colds. If they had been allowed to return to school in the midst of desquamation many children would have been exposed.

In this connection it may do no harm to mention one case to illustrate, on the one hand, the criminal carelessness of some people and, on the other, the watchfulness of the teachers. A boy after the morning visit was sent home on account of vomiting. Two days later his sister returned to school, who on being questioned said that her brother was better, but that his skin was quite red, also that no physician had been

called. Upon his morning visit these facts were reported to the inspector, who immediately went to the house and asked to see the boy. As was suspected, he was in the eruptive stage of scarlet fever. The mother was told this and was directed to isolate the child at once and to send for their family physician. Upon calling the next morning to see if the child had been properly isolated, he found him with the rest of the family, one child going to the children's hospital for treatment, and was met with the statement that upon his return from work in the evening the father had decided that the child was not sick enough to need a physician and that none had been called. It is needless to say that the case was at once reported to the Board of Health, which removed the child to the hospital. As he was not very sick, he undoubtedly would have been sent back to school within a few days had not the nature of his sickness been discovered, and been a source of great danger to two or three hundred children.

If by any chance several cases of scarlet fever, diphtheria, or measles do develop in a school, then the inspector's duties become more exacting. He makes a careful investigation to ascertain, if possible, the source of infection, he examines all of the children in certain rooms or in the whole school if necessary, and, should the disease be diphtheria, takes cultures from all suspicious throats and noses. If he considers certain rooms infected, he at once requests the Board of Health to disinfect them. By these means, in connection with the labors of the Board of Health, several epidemics which promised to be wide-spread have been stopped.*

In addition to the required work, in many districts the medical inspectors are requested to give talks to the mothers of the kindergarten children once a year at one of their monthly meetings. The talks, or, as many like to have them, open congresses, are usually about the general care of young children, and touch upon such subjects as food, clothing, sleep, bathing, etc., and more or less upon the contagious diseases. These meetings are fairly well attended and, judging from the questions asked, provoke a good deal of discussion among the mothers, thus helping to diffuse a general if not a deep knowledge of the care of children.

At the end of each month the slips on which the diagnoses are recorded are collected, and from them the inspector makes out a report to the Board of Health. From these reports are compiled the statistics

* The *Annals of Gynecology and Pediatrics for January, 1898*, contains very interesting accounts of such epidemics, by H. D. Arnold, M.D., E. T. Twitchell, M.D., and others.

of school inspection. The summary for the year 1899—that for 1900 is not yet available—is as follows:

Specific infectious diseases	468
Oral and respiratory diseases	2,738
Diseases of the ear	144
Diseases of the eye	434
Diseases of the skin	3,252
Miscellaneous diseases	10,413
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Total	17,449

As has been intimated, the physician has a dual duty,—the first as school inspector, the second as agent of the Board of Health. In the latter capacity he visits every case of scarlet fever and of diphtheria reported in his district that has not been sent to the hospital, being kept informed of all such cases, as well as of measles, by daily reports sent by the Board of Health. He inquires carefully into the isolation of each case and reports to the Board of Health whether or not it is satisfactory; he sees that a card is placed on the door of the room in which the patient is confined, setting it apart by the Board of Health as a place of detention for that patient until released by its order; he leaves a card for the physician attending the case, stating that the Board of Health will coöperate with him in the isolation of the patient; and, finally, he sees each patient upon recovery, verifying the attending physician's statement as to the termination of desquamation in scarlet fever, and in diphtheria taking a culture from nose and throat when the attending physician has succeeded in getting a negative culture from both. Patients are released from the latter disease only after two successive negative cultures from both nose and throat, the second being always taken by the medical inspector. This often necessitates taking several cultures, occasionally many. Upon his report in scarlet fever, or negative culture in diphtheria, the Board of Health sends its men, who disinfect with formaldehyde the room or rooms infected by the patient.

By a regulation of the School Board no child is allowed to return to school from a house in which there has been scarlet fever or diphtheria until two weeks after disinfection; in cases of measles, not until one week after recovery. There are no exceptions to these rules, and the inspector tries to assist the teachers in carrying them out. He is often called upon to decide whether a week has elapsed since a child has recovered from the measles or whether he has fully recovered from the other contagious diseases, as German measles, chicken-pox, whooping-cough, etc.

The foregoing is a crude description of the details of the medical inspection of schools. That the system is perfect is not claimed, but no one who is familiar with its workings can for a moment doubt its great usefulness. It has undoubtedly resulted in the saving of some lives and of much valuable time for children and parents. Looking at it from a pecuniary stand-point, it has many times paid for itself in saving great expenses to both city and individuals by limiting the spread of contagious diseases. It has also made many children's lives happier and more worth living by the removal of physical defects.

The system has been criticised as not going far enough in physical examinations, as for defective vision, and by some for not treating the children's diseases. Such criticisms are unfair, and show lack of familiarity with the conditions existing.

As time goes on doubtless modifications of the system will be made. But that it is the correct solution of the problem of the control of contagious diseases in our schools is evidenced by the hearty approval of all the masters and teachers, and by the fact that several cities have already adopted it, varying its details to meet their respective needs, and that each year sees more and more cities inquiring into it and taking it up. Eventually, there can be little doubt, as it can be easily adapted to smaller places as well as to the larger cities, the system will be in general use throughout our land.

